



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,366	05/28/2008	Guy Georges Aubin	BEAUMONT-38	8435
45722	7590	12/28/2010	EXAMINER	
Howard IP Law Group			HUGHES, KEVIN G	
P.O. Box 226			ART UNIT	
Fort Washington, PA 19034			PAPER NUMBER	
			2193	
			MAIL DATE	
			DELIVERY MODE	
			12/28/2010	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,366

Applicant(s)

AUBIN, GUY GEORGES

Examiner

KEVIN HUGHES

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 7/26/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 1-10 objected to because of the following informalities: Claims contain limitations occurring in prentices which are not related to the Figures. Generally prentices are reserved for reciting Figure elements and are not given patentable weight [See MPEP § 608.01(m)]. Appropriate correction is required.

Claims 1-2 and 5 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 10. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. A reshaping element is not defined in the specification other than briefly describing that a regeneration element performs the shaping. It is unclear what shaping is or what the regeneration element is performing.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "relatively low" "relatively high" in claims 1 and 5 are relative terms which renders the claim indefinite. The terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For purposes of examination relatively will be that the output frequency is an integer multiple of the input frequency.

Claims 1 and 5 "recite combining the delayed flow with the input bit flow". It is unclear to the examiner how the bit flows are being combined. They could be combined with a binary logic gate except the input and output are of different frequencies. For purposes of examination, the examiner will construe the combining to occur in a multiplexer clocked at the output frequency.

Claim 6 recites a reshaping element connected to the output of the combiner. It is unclear what the reshaping element is. There is no definition in the specification that notes what the reshaping element does. For purposes of examination, the reshaping element is a time multiplexer.

Claim 9 recites "and/or" for purposes of examination, the non-inclusive or will be assigned.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-4 recite a method for accelerating input bit flow without reciting any hardware or performing a transformation on a tangible and physical article. Therefor claims 1-4 are directed to non-statutory subject matter under 35 USC 101.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5-10 rejected under 35 U.S.C. 102(b) as being anticipated by Ailett et al. (US 3,881,099) (hereinafter Ailett).

As per claim 1, Ailett discloses a method for accelerating a pseudo-random input bit flow (PRBS(T.sub.1)), generated at a first relatively low clock frequency (f₁) (Column

1, lines 46-52, the input is at the frequency of the generator), into an identical output bit flow (PRBS($T_{sub.0}$)) at a second relatively high dock frequency (Column 1, lines 61-63) (f_0), comprising: collecting the output bit flow; delaying the collected flow by a predetermined value (τ); and combining the delayed flow with the input bit flow (Column 1, 53-68, the input is collected, delayed by half the input frequency, combined by a multiplexer, and output at twice the input frequency).

As per claim 2, Ailett discloses the method of claim 1, wherein delay T is selected to respect the following relation: $\tau = 2 \cdot \sup(I \cdot T_{sub.1} - T_{sub.0})$, where $T_{sub.1}$ represents the dock period of the input bit flow, $T_{sub.0}$ represents the dock period of the output bit flow, and I is an integer setting a decimation parameter (Column 1, lines 53-67, when I is .5 or $(N/2)$, the delay is half the input frequency (sample length) or $2T_0 = T_1$ and $\tau = 5T_1$).

As per claim 5, it is the circuit implementing the method of claim 1, therefor it is rejected under the same rationale.

As per claim 6, Ailett discloses the circuit of claim 5, wherein a reshaping element at the high frequency is provided at the combiner output (Column 2, lines 36-64, the time multiplexer receives the input and a phase shifted input for combination at the higher frequency).

As per claim 7, Ailett discloses the circuit of claim 5, wherein a phase-shifting element is further provided between the generator of the original pseudo-random bit sequence and the combiner (Column 2, lines 36-64, the time multiplexer receives the input and a phase shifted input for combination at the higher frequency).

As per claim 8, Ailett discloses the circuit of claims 5, wherein the initial bit flow is obtained by a flip flop generator (Column 1, lines 22-30, flip-flops generate the pseudorandom sequence).

As per claim 9, Ailett discloses the circuit of claim 5, formed by optical and/or electronic means (Column 1, lines 22-30, flip-flops generate the pseudorandom sequence where flipflops and multiplexors are electrical circuits).

As per claim 10, it is the circuit implementing the method of claim 2, therefor it is rejected under the same rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Ailett.

As per claim 3, Ailett discloses the method of claim 1, wherein delay τ is selected to respect the following relation: $\tau = (2k+1) \cdot (2^{n-1}) \cdot T_0$, where k represents any integer, and where n represents the degree of the irreducible polynomial of the random sequence (Column 2, lines 38-50, when $k=0$ the equation $\text{delay} = (\text{number of samples}) \cdot (\text{output frequency})$ is generated as qF when every flipflop is output is connected).

Ailett fails to expressly disclose $\tau = (2k+1) \cdot (2^{n-1}) \cdot T_0$, where k represents any integer, where the integer is a number other than zero.

However, Calculations of the rate show that term $(2K+1)$ cancels out when determining the delay required for input and output ratios to be established. Effectively showing $(2K+1)$ could be replaced with any term and yield the same results. Since the applicant has failed to disclose that $(2K+1)$ is used for a particular purpose, or solves a stated problem, it would have been an obvious matter of *design choice* to insert $(2K+1)$ into the equations.

As per claim 4, Ailett discloses the method of claim 3, wherein numbers k and l respect the following relation: $(2k+1) \cdot (2^{n-1}) + 1 = 2^{l-1}$, where p is the desired acceleration factor (Column 1 lines 53-67 and Column 2 lines 38-50, when $k=0$, the desired acceleration factor is T_1/T_0 or the factor that the output frequency is scaled to $[f=1/t]$).

Ailett fails to disclose $(2k+1) \cdot (2 \cdot \text{sup.n}-1) + 1 = p \cdot 2 \cdot \text{sup.l}$ where k represents any integer, where the integer is a number other than zero.

However, Calculations of the rate show that term $(2K+1)$ cancels out when determining the delay required for input and output ratios to be established. Effectively showing $(2K+1)$ could be replaced with any term and yield the same results. Since the applicant has failed to disclose that $(2K+1)$ is used for a particular purpose, or solves a stated problem, it would have been an obvious matter of *design choice* to insert $(2K+1)$ into the equations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN HUGHES whose telephone number is (571)270-3365. The examiner can normally be reached on M-Th/F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on 5712723759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 18, 2010

/KEVIN HUGHES/
Examiner, Art Unit 2193

/Lewis A. Bullock, Jr./
Supervisory Patent Examiner, Art Unit 2193